Communicable Disease BULLETIN

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New Hampshire Surveillance for HIV/AIDS

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HIV infection

Human immunodeficiency virus (HIV) is a retrovirus that is transmitted through sexual contact, the sharing of contaminated needles or syringes, and transfusion of contaminated blood or its components. Perinatal transmission may also occur with HIV infection. Persons identified as high-risk for the virus include men who have sex with men, injecting drug users, and persons who have multiple or high-risk sexual partners.

Initially, infection with HIV may result in a mild illness associated with seroconversion, when the body first begins to produce antibodies to HIV. Generally speaking, seroconversion may occur three to eight weeks after the initial infection. When most people seroconvert, they experience flu-like symptoms such as headache, fever, sore throat and swollen lymph nodes; these symptoms usually go away within two to four weeks. After the flu-like symptoms resolve, the body may enter an asymptomatic stage which may last anywhere from six months to ten or more years without experiencing any symptoms, the median is ten years. Although the incubation period is variable, HIV infection will result in acquired immunodeficiency syndrome (AIDS), which is presumed to be fatal.

The symptomatic stage of HIV infection is marked by a depletion of the immune system, primarily a decrease in CD4 lymphocyte or helper cells. AIDS is a disease that is indicative of severe immunosuppression related to infection with HIV. Persons diagnosed with AIDS are susceptible to a number of opportunistic infections due to immune system weakening, such as *Pneumocystis carinii* pneumonia, toxoplasmosis of the central nervous system, esophageal or lower respiratory tract candidiasis, cytomegalovirus infections and pulmonary tuberculosis.

National HIV/AIDS Surveillance

Public health disease surveillance provides population-based information on morbidity and mortality of a disease or condition. By 1985, all states had regulations requiring health care providers to report AIDS cases directly to their state or local health department. As of the end of 1999, a total of 733,374 AIDS cases had been reported to CDC.[1]

The goals of surveillance systems are to monitor trends in a disease and to provide data useful for allocating resources for patient care, target prevention programs and evaluate the impact of public health recommendations. In recent years the number of AIDS cases and deaths associated with AIDS has declined. This trend is in part, due to the use of antiretroviral therapy that has delayed the progression of HIV infection to AIDS. As a consequence of this trend, over time, AIDS surveillance data has become less representative of recently infected persons and useful for directing public health activities.

To date, a national HIV surveillance framework has yet to be implemented in the United States. CDC advises that state surveillance programs use the same confidential name-based approach for HIV surveillance as is currently used for AIDS surveillance nationwide.[2] As of December 1999, 34 states conducted name-based reporting of HIV infection, and as a result, 113,167 cases of persons living with diagnosed HIV (not AIDS) were reported to CDC.[1] States that choose to implement non name-based HIV infection reporting will receive technical assistance from CDC to establish performance criteria and to conduct evaluation studies on their surveillance system.

In New Hampshire, administrative rule HeP-301 allows for voluntary confidential name-based HIV reporting but does not mandate a name as a criterion for HIV case surveillance. Consequently, HIV surveillance data for New Hampshire is limited to some extent since non-named duplicate records cannot be eliminated from the surveillance system.

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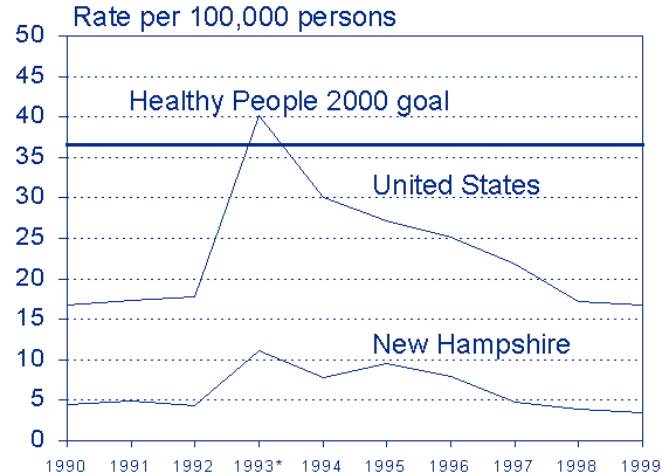

Figure 1. *AIDS rates per 100,000 persons in the United States and New Hampshire, 1990-1999.*

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Surveillance

Since 1983, New Hampshire has conducted confidential reporting of AIDS cases to the public health department. The reported rate of AIDS in New Hampshire has been consistently below the reported rate of AIDS in the United States (Figure 1). Furthermore, the AIDS rate has been well below the CDC's Healthy People 2000 goal (36.6 reported cases per 100,000 persons) since 1994 both nationally and in New Hampshire.

Through 1999, a total of 854 AIDS cases have been reported and 389 cases (46%) are known to have died. Of those 854 cases, 10 had been pediatric cases (less than 13 years of age at time of diagnosis). The AIDS epidemic in New Hampshire has been largely male, accounting for 84% (717/854) of cases while 16% (137/854) were among females. Racial distribution of cumulative AIDS cases reveals; 86% White non-Hispanic, 8% Hispanic, and 6% among Black, non-Hispanic persons. Concerning age distribution, 49% of reported AIDS cases were age 30-39 years and 22% were 40-49 years of age.

For those persons with a known risk factor for HIV infection, 50% of cumulative reported adult AIDS cases were associated with men who have sex with men, 21% were associated with injection drug use, 9% were associated with heterosexual contact, and 6% were associated with receipt of blood components or coagulation disorder, 5% were associated with men who have sex with men and injection drug use, and 8% of the cases were reported without identified risk information.

Since 1990, New Hampshire has conducted HIV surveillance and a total of 420 HIV cases had been reported through to 1999. Of those 420 reported cases, 71% (299/420) were male and 29% were females (121/420). Racial distribution among reported cases of HIV infection reveals; 73% White non-Hispanic, 11% Hispanic, 10% Black non-Hispanic, 1% Asian/Pacific Islander, and 5% of reported HIV cases race is unknown. Age distribution is similar to AIDS cases with 46% of reported HIV cases were persons 30-39 years of age. However, persons 20-29 years of age account for 34% of the reported HIV cases and 2% of reported cases are among persons 13-19 years of age.

For individuals with a known risk factor, 33% of cumulative HIV cases were associated with men who have sex with men, 27% were associated with injection drug use, 13% were associated with heterosexual contact, 5% were associated with men who have sex with men and injection drug use, 2% were associated with receipt of blood components or coagulation disorder, and 18% of the cases were reported without identified risk information. Geographic distribution of reported HIV and AIDS cases are similar. Each county shows reported HIV and AIDS cases from 1995 to 1999

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Cumulative cases of HIV/AIDS in New Hampshire, 1981-1999

CATEGORY	HIV cases 1990-1999 (%)	AIDS cases 1981-1999 (%)
Gender		
Males	299 (71)	717 (84)
Females	121 (29)	137 (16)
Race		
White	305 (73)	733 (86)
Black	41 (10)	49 (6)
Hispanic	48 (11)	69 (8)
Asian/Pacific Islander	4 (1)	1 (<1)
American Indian/Alaskan Native	1 (<1)	2 (<1)
Other/unknown	21 (5)	0 (0)
Age group (years)		
<5	11 (3)	8 (1)
5-12	1 (<1)	1 (<1)
13-19	9 (2)	5 (<1)
20-29	143 (34)	155 (18)
30-39	195 (46)	420 (49)
40-49	49 (12)	184 (22)
Over 49	12 (3)	81 (9)
Risk Category		
MSM*	138 (33)	424 (50)
IDU+	115 (27)	181 (21)
MSM/IDU	20 (5)	41 (5)
Hemophilia/coagulation disorder	4 (1)	23 (3)
Heterosexual contact	53 (13)	75 (9)
Receipt of blood/components	4 (1)	29 (3)
Risk not reported	74 (18)	72 (8)
Perinatal transmission	12 (3)	9 (1)
TOTAL	**420 (100)**	**854 (100)**

*MSM-Men who have sex with men +IDU-Injection drug use

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Update on Perinatal Hepatitis B Vaccination Policies in New Hampshire Hospitals

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In July 1999, the American Academy of Pediatrics (AAP) and the U.S. Public Health Service (PHS) issued a joint statement regarding thimerosal, a mercury-based preservative, in vaccines.[1] A comparable statement was released by the American Academy of Family Physicians (AAFP) shortly afterward.[2] At issue were the potential concerns for cumulative mercury exposure above permissible federal regulations for infants receiving vaccines during the first six months of life. Because of these concerns, the AAP/AAFP/PHS recommendations advised health care providers to delay the first dose of hepatitis B vaccine to newborns born to hepatitis B surface antigen (HBsAg) negative mothers.

In August of 1999, the New Hampshire Department of Health and Human Services (DHHS) staff conducted a telephone survey of 24 birthing hospitals in New Hampshire to inquire about changes to the hepatitis B vaccination policies of those hospitals.[3] Results of this survey showed that one (4%) hospital continued to provide routine hepatitis B vaccination, while 23 (96%) no longer offered routine hepatitis B vaccination to newborns. All but one of the hospitals continued to vaccinate any baby born to a HBsAg positive mother, or mother of unknown status.

In September 1999, Merck Vaccine Division began distribution of their thimerosal free Recombivax HB® Pediatric vaccine. With this change, DHHS staff sent a letter in November 1999 to New Hampshire health care providers informing them that a supply of thimerosal free vaccine would be available in December 1999 for birthing hospitals, and after January 1, 2000, the vaccine would be available for all infants from birth through 6 months of age.[4]

In October 2000, another telephone survey of birthing hospitals was conducted to determine whether hospitals had resumed universal hepatitis B vaccination of newborns. The results of that survey showed that 24 out of the 25 hospitals had indeed resumed universal hepatitis B vaccination, consistent with CDC's recommendations[5] (Table 1). The one hospital not routinely vaccinating newborns reported that their policy is for all newborns to have an appointment with their health care provider within a week after birth and receive the first hepatitis B vaccine at that time. All 25 hospitals report that they vaccinate any baby born to a HBsAg positive mother, or mother of unknown status.

Universal vaccination of newborn infants is a central focus of efforts to prevent hepatitis B.[6] Infants receiving their first dose of hepatitis B vaccine at birth have an increased likelihood of completing the three dose series.[7] The hepatitis B vaccination policies of New Hampshire birthing hospitals help to ensure that all infants born in this state have begun an important series of vaccinations to protect them from becoming infected with hepatitis B. In addition to recommending universal vaccination, the Perinatal Hepatitis B Program Coordinator tracks high risk infants (those born to HBsAg positive mothers) to ensure that those infants complete the hepatitis B series and have the recommended post-testing.

If you have questions about hepatitis B vaccine, call the New Immunization Program at 1-800-852-3345 extension 4482 or (603) 271-4482. If you have questions about hepatitis B disease, call the New Hampshire Communicable Disease Control Bureau at 1-800-852-3345 extension 4496 or (603) 271-4496.

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1. CDC. Thimerosal in Vaccines: A Joint Statement of the American Academy of Pediatrics and the Public Health Service. *MMWR* 1999; 48:563-565.
2. American Academy of Family Physicians. Policy statement of the American Academy of Family Physicians of thimerosal in vaccines. July 8, 1999.
3. Rondeau D. The Impact of Thimerosal Recommendations on New Hampshire Hospital Perinatal Hepatitis B Vaccination Policies. *Communicable Disease Bulletin* 1999; 5(4): 2-3.
4. NH Department of Health and Human Services. Written communication to NH health care providers re: Thimerosal Free Hepatitis B Vaccine Available in New Hampshire. Nov 23, 1999.
5. CDC. Update: Expanded Availability of Thimerosal Preservative-Free Hepatitis B Vaccine. *MMWR* 2000; 49: 642-651.
6. Advisory Committee on Immunization Practices. Hepatitis B Virus: A Comprehensive Strategy for Eliminating Transmission in the United States Through Universal Childhood Vaccination. *MMWR* 1991; 40: 1-19.
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Table 1. *Routine Hepatitis B Policy in New Hampshire Birthing Hospitals, 1996, 1999 & 2000.*

	Provide Routine HBV @ Birth, 1996*	Provide Routine HBV @ Birth, 1999+	Vaccine to Baby of HBsAg positive or Unknown Status Mom, 1999+	Provide Routine HBV @ Birth, 2000++	Vaccine to Baby of HBsAg positive or Unknown Status Mom, 2000++
Yes	25 (100%)	1 (4%)	22 (92%)	24 (96%)	25 (100%)
No	0	23 (96%)	1 (4%)	1 (4%)	0
Unknown	0	0	1 (4%)	0	0
Total	25	24	24	25	25

* 1996 survey results were reviewed in 1998. This survey was a mailed questionnaire to birthing hospitals that looked at the year's birth cohort.
+ 1999 survey was a telephone survey of birthing hospitals conducted in August 1999.
++ 2000 survey was a telephone survey of birthing hospitals conducted in October 2000.

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with county being residence at time of report (Figure 2).

Although some similarities exist when comparing HIV and AIDS surveillance data, some concerning trends have emerged. For example, a higher percentage of cases have been attributed to heterosexual contact (18% of reported HIV cases versus 9% of reported AIDS cases). Additionally, younger persons are well represented in HIV surveillance data (34% of HIV cases 20-29 years of age versus 18% AIDS cases) and suggests young persons are at-risk for HIV infection. Although New Hampshire is a low incidence state, ongoing HIV and AIDS surveillance will assist in describing the HIV epidemic and most notably assist in planning prevention activities.

For further information about HIV and AIDS surveillance or to report a case of HIV or AIDS please call Christine Adamski at (603) 271-3932.

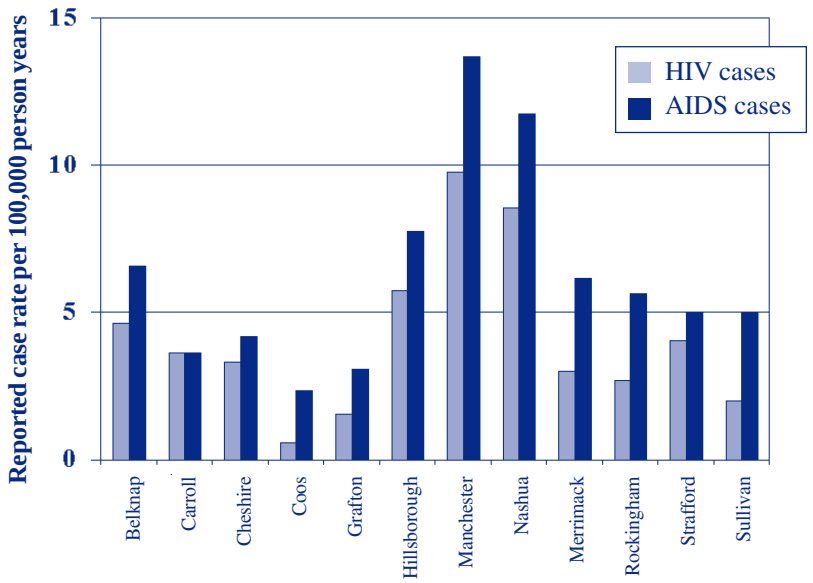

Figure 2. *Geographic distribution of reported HIV and AIDS case rates in New Hampshire, by county and cities of Manchester and Nashua*, 1995-1999.*

** County/city is county/city of residence at time of report. Does not include cases where county at time diagnosis is other/unknown. Hillsborough County totals include the cities of Manchester and Nashua. Case rates are based upon the most recently published estimates by the NH Office of State Planning.*

References:

1. Centers for Disease Control and Prevention. HIV/AIDS Surveillance Report. Year- end edition 1999; 11 (2): 5.
2. Centers for Disease Control and Prevention. Guidelines for national human immunodeficiency virus case surveillance, including monitoring for human immunodeficiency virus infection and acquired immunodeficiency syndrome. *MMWR* 1999; 48(RR-13): 9.